

CLAIMS

1) A unit for feeding capsules (2) onto a machine for filling capsules (2), the unit comprising a hopper 5 (6) containing the capsules (2); the hopper (6) having a first axis (7) of rotation, being fitted with a number of feed channels (15), and rotating continuously about said first axis (7) to move said feed channels (15) about the first axis (7); and each feed channel (15) having a 10 longitudinal second axis (14), and receiving the capsules (2) successively from said hopper (6); characterized in that each said feed channel (15) is so positioned that the relative said second axis (14) forms a given angle (a) of other than 90° with a reference plane (S1) 15 perpendicular to said first axis (7).

2) A unit as claimed in Claim 1, wherein each said feed channel (15) is so positioned that the relative said second axis (14) intersects said first axis (7).

3) A unit as claimed in Claim 1, wherein said feed 20 channels (15) are connected to said hopper (6) so that said second axes (14) are equally spaced about said first axis (7).

4) A unit as claimed in Claim 1, and also comprising a number of supporting bars (9) connected to said hopper 25 (6) and each having at least two respective said feed channels (15); each supporting bar (9) having a longitudinal plane of symmetry (S2) containing said first axis (7).

5) A unit as claimed in Claim 4, wherein said supporting bars (9) are connected to said hopper (6) so that said longitudinal planes of symmetry (S2) are equally spaced about said first axis (7).

5 6) A unit as claimed in Claim 4, wherein the feed channels (15) of each said supporting bar (9) are positioned with the relative said second axes (14) substantially parallel to one another and to the relative said longitudinal plane of symmetry (S2).

10 7) A unit as claimed in Claim 4, wherein the feed channels (15) of each said supporting bar (9) are positioned with the relative said second axes (14) substantially converging with one another towards the relative said longitudinal plane of symmetry (S2).

15 8) A unit as claimed in Claim 1, and also comprising a first transfer wheel (19) substantially coaxial with said first axis (7) and connected to said hopper (6) to rotate about the first axis (7); the first wheel (19) having a substantially truncated-cone-shaped first outer 20 peripheral surface (24), and a number of first seats (25) formed in said first surface (24), equal in number to said feed channels (15), and each for receiving at least one said capsule (2) from a relative said feed channel (15).

25 9) A unit as claimed in Claim 8, and also comprising a second transfer wheel (27) which rotates continuously about a respective third axis (29) of rotation substantially parallel to said first axis (7); and a

first transfer station (32) connecting said first and said second wheel (19, 27) to each other; said second wheel (27) having a substantially truncated-cone-shaped second outer peripheral surface (30), and a number of 5 second seats (31) formed in said second surface (30) and each for receiving at least one said capsule (2) from a relative said first seat (25).

10) A unit as claimed in Claim 9, and also comprising a third transfer wheel (34) which rotates 10 continuously about a respective fourth axis (36) of rotation substantially parallel to said first and said third axis (7, 29); and a second transfer station (40) connecting said second and said third wheel (27, 34) to each other; said third wheel (34) having a number of 15 third seats (37) substantially parallel to said fourth axis and each for receiving at least one said capsule (2) from a relative said second seat (31).

11) A unit as claimed in Claim 10, wherein said feed channels (15) are connected to said hopper (6) so that 20 said second axes (14) are equally spaced about said first axis (7); said first, second, and third seats (25, 31, 37) being equally spaced with a given spacing about the respective said first, third, and fourth axis (7, 29, 36).

25 12) A unit as claimed in Claim 10, and also comprising a number of supporting bars (9) connected to said hopper (6), each having at least two said feed channels (15), and which have respective longitudinal

planes of symmetry (S2) equally spaced about said first axis (7); the feed channels (15) of each supporting bar (9) being positioned with the relative said second axes (14) substantially parallel to one another and to the 5 relative said longitudinal plane of symmetry (S2).

13) A unit as claimed in Claim 12, wherein the feed channels (15) of each supporting bar (9) are associated with a relative group of said first seats (25); the first seats (25) in each said group of first seats (25) being 10 spaced about said first axis (7) with a given first spacing (p1).

14) A unit as claimed in Claim 13, wherein each pair of adjacent supporting bars (9) has a pair of adjacent feed channels (15); each pair of feed channels (15) being 15 associated with a pair of said first seats (25); and the first seats (25) in each said pair of first seats (25) being spaced about said first axis (7) with a given second spacing (p2).

15) A unit as claimed in Claim 14, wherein said 20 second seats (31) are spaced about said third axis (29) with the same spacing as said first seats (25), and said third seats (37) are equally spaced about said fourth axis (36) with a third spacing (p3) substantially smaller than said first spacing (p1) and substantially greater 25 than said second spacing (p2).